National Aeronautics and Space Administration

A Look at NASA

Presented by the National Aeronautics and Space Administration - Office of Legislative Affairs

Vol. 2 – No. 26

NASA Weekly Update

Week of June 18 – 25, 2007

June 22: Shuttle Atlantis Crew Returns Home after Successful Mission: The space shuttle Atlantis and its crew are home after completing a 14-day journey of more than 5.8 million miles in space. Atlantis' STS-117 mission successfully increased the power capability of the International Space Station, preparing for the future delivery of European and Japanese laboratories. Atlantis' Commander Rick Sturckow, Pilot Lee Archambault and mission specialists Jim Reilly, Patrick

Space shuttle Atlantis touches down at Edwards Air Force Base, Calif.

Forrester, Steven Swanson, John "Danny" Olivas and Sunita Williams landed at Edwards Air Force Base, Calif., Friday at 3:49 p.m. EDT. Atlantis' crew attached the new S3/S4 solar array truss segment on the right side of the station's backbone, deployed a new set of solar arrays, and retracted the Port 6 starboard solar array back into its box. The station has a new look with two symmetrical solar panels mounted on each end of the station's truss. With Atlantis and its crew safely home, the stage is set for the next phase of International Space Station assembly. Preparations continue for space shuttle Endeavour's launch, targeted for August, on the STS-118 mission to deliver the S5 truss segment to the station. For more on the STS-117 mission and the upcoming STS-118 mission, visit: http://www.nasa.gov/shuttle.

June 21: NASA Prepares for Performing New Science on the Moon: NASA has selected proposals for future lunar science activities and established two new programs that will enhance research made possible by the Vision for Space Exploration. The proposals and programs are part of an effort by NASA to develop new opportunities to conduct important science investigations during the planned renewal of human exploration of the moon. In a highly competitive selection, NASA chose seven proposals from more than 70 submissions under the Lunar Sortie Science Opportunities (LSSO) Program. Details on NASA's lunar research programs are available at: http://www.nasa.gov/exploration.

June 22: NASA Awards Payload Processing Contract: NASA's Launch Services Program has awarded a pair of indefinite-delivery/indefinite-quantity contracts to Astrotech Space Operations in Titusville, Fla., and Spaceport Systems International in Colorado Springs, Colo. The companies will provide the necessary facilities to perform payload processing services for NASA missions launching from Vandenberg Air Force Base, Calif. The aggregate value of available firm-fixed-price orders under the two contracts could be worth up to $35 million over a maximum of four years, which includes two 1-year options.

June 21: NASA Authorizes Contract for Ares I Materials: NASA has authorized a contract with a maximum value of $16.7 million with Alcoa North American Rolled Products of Bettendorf, Iowa, to supply aluminum lithium plates and metal ingots for early development of the Ares I crew launch vehicles upper stage. The firm fixed-price contract has a period of performance through Aug. 5, 2008. Ares I is an in-line, two-stage rocket that will transport to low Earth orbit the Orion crew exploration vehicle containing up to six astronauts. The first stage will consist of a single

reusable solid rocket booster similar to those used on the space shuttle, with an additional fifth segment. The second, or upper, stage will consist of a J-2X main engine fueled by liquid hydrogen and liquid oxygen propellants. For information about NASA's Constellation Program, visit: http://www.nasa.gov/constellation.

June 18: NASA and ESA Sign Agreements for Future Cooperation: At a ceremony held Monday at the International Paris Air Show at Le Bourget, France, NASA Administrator Michael Griffin and European Space Agency (ESA) Director General Jean-Jacques Dordain signed two agreements defining the terms of cooperation on the James Webb Space Telescope (JWST) and the Laser Interferometer Space Antenna (LISA) Pathfinder mission. Although it will operate over a different range of wavelengths, the James Webb Space Telescope is considered the successor to the Hubble Space Telescope. Its launch is targeted for 2013 and it will operate for at least five years.

Weekly Status Reports

Space Shuttle

Mission: STS-118 - 22nd International Space Station Flight (13A.1) - S5 Truss Segment
Vehicle: Endeavour (OV-105)
Location: Orbiter Processing Facility Bay 2
Launch Date: Targeted for Aug. 9, 2007
Launch Pad: 39A
Crew: Kelly, Hobaugh, Williams, Morgan, Mastracchio, Caldwell and Drew
Inclination/Orbit Altitude: 51.6 degrees/122 nautical miles

In Orbiter Processing Facility bay No. 2 this week, workers successfully completed the frequency response testing of the orbiter's flight control system. Pressurization of the nose landing gear and main landing gear struts has ended. Tile work around the payload bay door hinges is under way, and the main propulsion system valves have been configured for rollout. The forward external tank/orbiter yoke (attach point) has been installed. The shuttle main engine covers are installed, and the engines are ready for the vehicle's rollover to the Vehicle Assembly Building, currently scheduled for July 2.

Mission: STS-120 - 23rd International Space Station Flight (10A) - U.S. Node 2
Vehicle: Discovery (OV-103)
Location: Orbiter Processing Facility Bay 3
Launch Date: Targeted for Oct. 20, 2007
Launch Pad: 39A
Crew: Melroy, Zamka, Parazynski, Wheelock, Wilson, Nespoli and Tani
Inclination/Orbit Altitude: 51.6 degrees/122 nautical miles

In Orbiter Processing Facility bay No. 3, aft closeout work is under way. The orbiter docking mechanism has been stowed for flight. Checkout and servicing of water spray boiler No. 1 is scheduled for completion today. Modifications to Discovery's engine cutoff sensor wiring are complete, along with the installation of Boeing Rigid Insulation (BRI) tile around the main landing gear doors and external tank doors.

International Space Station (ISS)

International Space Station Commander Fyodor Yurchikhin carried out troubleshooting efforts on Russian segment's central computer and terminal computer on Thursday. This procedure will not impact operation of the two channels of each computer that have been in control of Russian system operation since the restart on June 15. The troubleshooting procedure is designed to help Russian mission managers further assess their plans for repair of the computer systems, including possible replacement of components with new hardware to be flown on the next Progress supply ship due to arrive at the station on July 24.

Upcoming Events

- **July 7:** Dawn launch from Cape Canaveral Air Force Station on a Delta II rocket.
- **Aug 3:** Phoenix launch from Cape Canaveral Air Force Station on a Delta II rocket
- **Aug 9:** Launch of Space Shuttle Endeavor from Kennedy Space Center for mission STS-118 to the International Space Station.
- **Oct 20:** Launch of Space Shuttle Discovery from Kennedy Space Center for mission STS-120 to the International Space Station.

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Please print and Fax to (202) 358-4340
or e-mail Lisa.Gibson@nasa.gov